AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claims 1-32 (Cancelled).

Claim 33 (Currently Amended): A monitoring device for a multichannel digital switch, the switch including a connecting interface for connecting physical connection circuits to a transmission medium, defining at least one of source and destination ports, the connecting interface including a physical layer and a logical layer, and a processing unit for carrying out selective switching of multifield data cells between the different ports, the monitoring device comprising:

a probe unit coupled selectively to the connecting interface, configured to ~~observe data~~ separately observe data transmitted from the physical layer to the logical layer, and data transmitted from the logical layer to the physical layer~~between the physical layer and the logical layer~~; and

a monitoring unit configured to analyze contents of at least part of the data cells probed by the probe unit, to generate a warning message to the logical layer when the part analyzed does not meet a selected condition and to make the warning message compatible with an associated port of the logical layer, to output the warning message to the logical layer, and to trigger rejection of a cell probed by the probe unit upon transmission of the warning message.

Claim 34 (Previously Presented): The device according to claim 33, wherein the monitoring unit is further configured to analyze contents of at least part of a field of the data cells probed by the probe unit.

Claim 35 (Previously Presented): The device according to claim 34, wherein the monitoring unit is further configured to analyze contents of at least part of a field of each cell probed by the probe unit.

Claim 36 (Previously Presented): The device according to claim 33, wherein the probe unit is configured to probe cells including at least one of a logic channel field, a physical channel field, and a data field.

Claim 37 (Previously Presented): The device according to claim 33, wherein the probe unit is configured to probe cells including at least one of a cell start field, a destination port address field, a source port address field, and a data field.

Claim 38 (Previously Presented): The device according to claim 33, wherein the probe unit is configured to probe cells including at least one of a virtual path identifier field, a virtual channel identifier field, a payload type field, and a data field.

Claim 39 (Previously Presented): The device according to claim 36,
wherein the monitoring unit comprises a table of correspondence specifying for each port connected to the connection circuits a list of authorized cells comprising at least the ports with which the respective port can exchange the cells, and wherein the monitoring unit is further configured to compare contents of this table of correspondence to that of at least one of the fields of the cell being transferred, to generate the warning message when its field or fields analyzed designate a port that does not have a correspondence with the source port transmitting the cell, this correspondence forming a chosen condition.

Claim 40 (Previously Presented): The device according to claim 37,

wherein the monitoring unit comprises a table of correspondence specifying for each port connected to the connection circuits a list of authorized cells comprising at least the ports with which the respective port can exchange the cells, and wherein the monitoring unit is further configured to compare contents of this table of correspondence to that of at least one of the fields of the cell being transferred, to generate the warning message when its field or fields analyzed designate a port that does not have a correspondence with the source port transmitting the cell, this correspondence forming a chosen condition.

Claim 41 (Previously Presented): The device according to claim 38,

wherein the monitoring unit comprises a table of correspondence specifying for each port connected to the connection circuits a list of authorized cells comprising at least the ports with which the respective port can exchange the cells, and wherein the monitoring unit is further configured to compare contents of this table of correspondence to that of at least one of the fields of the cell being transferred, to generate the warning message when its field or fields analyzed designate a port that does not have a correspondence with the source port transmitting the cell, this correspondence forming a chosen condition.

Claim 42 (Previously Presented): The device according to claim 39, wherein the analyzed field or fields is or are chosen from at least the logic channel field and the physical channel field.

Claim 43 (Previously Presented): The device according to claim 40, wherein the analyzed field or fields is or are chosen from at least the destination port address field of the cell and the source port address field of the cell.

Claim 44 (Previously Presented): The device according to claim 41, wherein the analyzed field or fields is or are chosen from at least the virtual path identifier field and the virtual channel identifier field.

Claim 45 (Previously Presented): The device according to claim 39, wherein the table of correspondence includes for each source or destination port at least one list of associated destination addresses, a list of associated source addresses, a list of cell flux types authorized on the port, accompanied by temporal features of each of the fluxes, and a list of the cell lengths authorized to circulate on the port.

Claim 46 (Previously Presented): The device according to claim 45, wherein the table of correspondence is stored in a modifiable memory selected from at least a live memory, a flash memory, and an assembly of registers each associated with a port and having an individually configurable content.

Claim 47 (Previously Presented): The device according to claim 44, wherein the memory is configured to permit access by writing and/or reading for monitoring.

Claim 48 (Previously Presented): The device according to claim 42, wherein the monitoring unit is configured to effect its comparison on the logic channel field, then on the physical channel field.

Claim 49 (Previously Presented): The device according to claim 43, wherein the

monitoring unit is configured to effect its comparison on the destination address field, then on

the source address field.

Claim 50 (Previously Presented): The device according to claim 44, wherein the

monitoring unit is configured to effect its comparison on the virtual path identifier field, then

on the virtual channel identifier field.

Claim 51 (Previously Presented): The device according to claim 39, wherein the

monitoring unit is further configured to determine whether contents of the data field of the

cell probed by the probe unit has a predetermined format, and to generate the warning

message when at least part of the data field does not verify the format, this verification of

format forming the chosen condition.

Claim 52 (Previously Presented): The device according to claim 39, wherein the

monitoring unit is further configured to determine a type of cell probed by the probe unit by

analyzing contents of a type field of the cell, to generate the warning message when the type

field does not correspond to a predetermined type-associated with the port having transmitted

the cell, this verification of type forming the chosen condition.

Claim 53 (Previously Presented): The device according to claim 39, wherein the

monitoring unit is further configured to measure outputs of cells probed by the probe unit,

according to a type for the cells, and to generate the warning message when the measured

output associated with the type for the cells does not correspond to a predetermined output, this verification of output forming the chosen condition.

Claim 54 (Previously Presented): The device according to claim 39, wherein the monitoring unit is further configured to measure for each source port a temporal distance between cells of a same type which it has transmitted, and to generate the warning message when the temporal distance measured associated with its type does not correspond to a predetermined distance, this verification of distance forming the chosen condition.

Claim 55 (Previously Presented): The device according to claim 39, wherein the monitoring unit is further configured to measure for each destination port a temporal distance between cells of a same type that it has received, and to generate the warning message when the distance measured associated with its type does not correspond to a predetermined temporal distance, this verification of distance forming the chosen condition.

Claim 56 (Previously Presented): The device according to claim 36, wherein the monitoring unit is further configured to measure a length of each cell probed by the probe unit, and to generate the warning message when its measured length does not correspond to a predetermined length associated with its type, this verification of length forming the chosen condition.

Claim 57 (Previously Presented): The device according to claim 36, wherein the monitoring unit is configured to make compatible at each port a number of cells the port transmits and a number of cells the port receives-to estimate for each port a rate of use, and to trigger invalidation of a connection between a port and the connection circuits to which the

port is connected when the estimated rate of use for the port does not correspond to a

predetermined rate associated with the type of cell of the port.

Claim 58 (Previously Presented): The device according to claim 33, wherein the

monitoring unit is configured to trigger invalidation of a connection between the port and the

connection circuits when a number of generated warning messages made compatible for the

port is higher than a threshold.

Claim 59 (Previously Presented): The device according to claim 33, wherein the

monitoring unit is configured to trigger rejection by the processing unit of the cell seen by the

probe unit when a number of generated warning messages made compatible for the port is

higher than a threshold.

Claim 60 (Previously Presented): The device according to claim 33, wherein the

monitoring unit is configured to trigger rejection by the processing unit of the cell probed by

the probe unit when a number of generated warning messages made compatible for the port is

higher than a threshold.

Claim 61 (Cancelled).

Claim 62 (Previously Presented): The device according to claim 33, wherein the

monitoring unit is configured, upon transmission of the warning message, to trigger the

processing unit to reject the cell probed by the probe unit.

Claim 63 (Previously Presented): The device according to claim 33, wherein the monitoring unit is configured to trigger invalidation of the connection between a selected port and the connecting circuits when a number of rejections made compatible for the selected port is higher than a threshold.

Claim 64 (Previously Presented): A switch, comprising the device according to claim 33.

Claim 65 (Previously Presented): A communication installation, comprising at least one switch equipped with at least one device according to claim 33, the ports of the switch being connected to machines and computers.

Claim 66 (Previously Presented): The communication installation according to claim 65, wherein the communication installation is implanted in an airship comprising a flight management computer and a flight control computer.

Claim 67 (Currently Amended): A monitoring device for a multichannel digital switch, the switch including a connecting interface for connecting physical connection circuits to a transmission medium, defining at least one of source and destination ports, and a processing unit for carrying out selective switching of multifield data cells between the different ports, the monitoring device comprising:

a probe unit coupled selectively to the connecting interface; and

a monitoring unit configured to analyze contents of at least part of the data cells probed by the probe unit, and configured to generate a warning message when the part analyzed does not meet a selected condition,

wherein the probe unit is configured to probe cells including at least one of a logic

channel field, one physical channel field, and a data field,

wherein the monitoring unit comprises a table of correspondence specifying for each

port connected to the connection circuits a list of authorized cells comprising at least the ports

with which the respective port can exchange the cells, and

wherein the monitoring unit is further configured to compare contents of this table of

correspondence to that of at least one of the fields of the cell being transferred, to generate the

warning message when its field or fields analyzed designate a port that does not have a

correspondence with the source port transmitting the cell, this correspondence forming a

chosen condition, and to make the warning message compatible with an associated port of the

connection interface, and

wherein the monitoring unit is configured to at least invalidate a connection between

the port and the connection interface, or reject the cell probed by the probe unit, based on a

number of generated warning messages.

Claim 68 (Previously Presented): The monitoring device according to Claim 33,

wherein

the monitoring unit is further configured to determine whether an address of a

destination cell of the data does not correspond to the port analyzed by the respective

monitoring unit.

Claim 69 (Cancelled).

Claim 70 (Previously Presented): The monitoring device according to Claim 33,

wherein the monitoring unit is configured to at least invalidate a connection between the port

and the connection circuits, or reject the cell observed by the probe unit, based on a number

of generated warning messages.

Claim 71 (Cancelled).

Claim 72 (Previously Presented): The monitoring device according to Claim 70,

wherein the monitoring unit is configured to compare the number of generated warning

messages with a threshold value.

Claim 73 (Currently Amended): The monitoring device according to ~~Claim 71~~Claim

67, wherein the monitoring unit is configured to compare the number of generated warning

messages with a threshold value.